

WHAT IS CLAIMED IS:

1. An image forming apparatus for printing out data on the basis of given information, comprising:
  - a memory for storing information for use in the maintenance of said image forming apparatus;
  - a capacity determination unit for, when a use capacity of said memory has reached a predetermined value, notifying said memory of information representing that the use capacity has reached the predetermined value and instructing said memory to output the stored information; and
  - a compressing unit for compressing the output information from said memory and outputting as coded information.
2. An apparatus according to claim 1, wherein said compressing unit converts the output information from said memory into coded information containing a character and number or bar code type digital information, and outputs the converted information.
3. An apparatus according to claim 2, wherein the coded information containing a character and number is expressed by a base-10 + n (n is an integer of not less than 1) number.
4. A communication system for the maintenance of an image forming apparatus, which comprises said image forming apparatus having a printing unit for printing out data on the basis of given information, and a service provider's apparatus for receiving information for use in maintenance of said image forming apparatus, wherein
  1. said image forming apparatus comprises:
    - a memory for storing information for use in the maintenance of said image forming apparatus;
    - a capacity determination unit for, when a use capacity of said memory has reached a predetermined value, notifying said memory of information representing that the use capacity has reached the predetermined value and instructing said memory to output the stored information; and
    - a compressing unit for compressing the output information from said memory and outputting as coded information, and
  2. said service provider's apparatus comprises information storage means for sequentially receiving and storing the coded

information.

5. A system according to claim 4, wherein said compressing unit converts the output information from said memory into coded information containing a character and number or bar code type digital information, and outputs the converted information.

6. A system according to claim 5, wherein the coded information containing a character and number is expressed by a base-10 + n (n is an integer of not less than 1) number.

7. A system according to claim 6, wherein

    said printing unit of said image forming apparatus prints the coded information output from said compressing unit, and outputs the printed-out sheet, and

    said service provider's apparatus further comprises:

    converting means for reading the image information printed on the printed-out sheet, converting the read image into coded information containing a character and number or bar code type digital information, and outputting the converted information;

    an expanding unit for expanding the compressed character information or the compressed bar code type digital information; and

    a display unit for displaying the expanded information on a screen or printing out the expanded information.

8. A system according to claim 6, wherein

    said image forming apparatus further comprises a first facsimile unit connected to a communication line to transmit the coded information to said communication line, and

    said service provider's apparatus further comprises:

    a second facsimile unit connected to said communication line to receive and output the coded information transmitted from said first facsimile unit;

    an expanding unit for expanding and outputting the compressed information output from said second facsimile unit; and

    a display unit for displaying the expanded information on a screen or printing out the expanded information.

9. A system according to claim 6, wherein

    said image forming apparatus further comprises a first

server connected to a communication line to transmit the coded information to said communication line, and

    said service provider's apparatus further comprises:

    a second server connected to said communication line to receive and output the coded information transmitted from said first server;

    an expanding unit for expanding and outputting the compressed information output from said second server; and

    a display unit for displaying the expanded information on a screen or printing out the expanded information.

10. A system according to claim 6, wherein

    said printing unit of said image forming apparatus prints the coded information and outputs a first printed-out sheet,

    said image forming apparatus further comprises:

    converting means for reading and converting information on a second printed-out sheet into first character information; and

    a setting change unit for changing a set value of said image forming apparatus on the basis of the converted first character information, and

    said service provider's apparatus further comprises:

    converting means for reading and converting image information printed on the first printed-out sheet into compressed second information, and outputting the compressed second information;

    an expanding unit for expanding the compressed second information;

    a display unit for displaying the expanded second information on a screen or printing out the expanded second information; and

    a printing unit for outputting the second printed-out sheet containing information which designates a change of a set value of said image forming apparatus.

11. A system according to claim 6, wherein

    said image forming apparatus further comprises:

    a first facsimile unit connected to a communication line to transmit the coded first information to said communication

line and receive second information transmitted from said communication line; and

a setting change unit for changing a set value of said image forming apparatus on the basis of the received second information, and

said service provider's apparatus further comprises:

a second facsimile unit connected to said communication line to receive and output the coded first information transmitted from said first facsimile unit, and transmit the second information designating a change of a set value of said image forming apparatus;

an expanding unit for expanding and outputting the coded compressed first information output from said second facsimile unit; and

a display unit for displaying the expanded first information on a screen or printing out the expanded first information.

12. A system according to claim 6, wherein

said image forming apparatus further comprises:

a first server connected to a communication line to transmit the coded first information to said communication line, and receive the second information transmitted from said communication line; and

a setting change unit for changing a set value of said image forming apparatus on the basis of the received second information, and

said service provider's apparatus further comprises:

a second server connected to said communication line to receive and output the coded first information transmitted from said first server, and transmit the second information designating a change of a set value of said image forming apparatus;

an expanding unit for expanding and outputting the coded compressed first information output from said second server; and

a display unit for displaying the expanded character information on a screen or printing out the expanded character information.

13. A maintenance service method of an image forming apparatus which prints out data on the basis of given information, comprising the steps of:

storing information for use in maintenance of said image forming apparatus into a memory;

causing said memory to output the stored information when a use capacity of said memory has reached a predetermined value; and

compressing the output information from said memory and outputting the compressed information as coded information.

14. A method according to claim 13, wherein the step of compressing the image comprises converting the output information from said memory into coded information containing a character and number or bar code type digital information.

15. A method according to claim 14, wherein the step of compressing the information and outputting as coded information comprises using a base- $10 + n$  ( $n$  is an integer of not less than 1) number.

16. A method by which a service provider provides a maintenance service to a user's image forming apparatus having a printing unit for printing out data on the basis of given information, comprising the steps of:

storing information for use in maintenance of said image forming apparatus into a memory;

causing said memory to output the stored information when the use capacity of said memory has reached a predetermined value; and

compressing the output information from said memory and outputting the compressed information as coded information,

on the user side; and

sequentially storing the coded information,  
on the service provider side.

17. A method according to claim 16, further comprising the steps of:

printing the compressed coded information as image information by using said printing unit; and

reading the image information printed on the printed-out

sheet, converting the read information into compressed character information or compressed bar code type digital information, and outputting the converted information,

on the user side; and

expanding the compressed character information or the compressed bar code type digital information; and

displaying the expanded information on a screen or printing out the expanded information,

on the service provider side.

18. A method according to claim 16, further comprising the steps of:

transmitting the coded information to a communication line by using a first facsimile unit, which is connected to said communication line, of said image forming apparatus,

on the user side; and

receiving the coded information transmitted from said first facsimile unit by using a second facsimile unit connected to said communication line;

expanding the compressed information received by said second facsimile unit; and

displaying the expanded information on a screen or printing out the expanded information,

on the service provider side.

19. A method according to claim 16, further comprising the steps of:

transmitting the coded information to a communication line by using a first server connected to said communication line,

on the user side; and

receiving the coded information transmitted from said first server by using a second server connected to said communication line;

expanding the compressed information received by said second server; and

displaying the expanded information on a screen or printing out the expanded information,

on the service provider side.

20. A method according to claim 16, further comprising the

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steps of:

printing the coded information and outputting a first printed-out sheet by using said printing unit;

reading and converting information on the first printed-out sheet into first information, and outputting the first information; and

changing a set value of said image forming apparatus on the basis of the first information,

on the user side; and

reading image information printed on the first printed-out sheet and converting the image information into compressed second information;

expanding the compressed second information;

displaying the expanded second information on a screen or printing out the expanded second information; and

outputting a second printed-out sheet containing information which designates a change of a set value of said image forming apparatus,

on the service provider side.

21. A method according to claim 16, further comprising the steps of:

transmitting the coded first information to a communication line, and receiving second information transmitted from said communication line, by using a first facsimile unit connected to said communication line; and

changing a set value of said image forming apparatus on the basis of the received second information,

on the user side; and

receiving the coded first information transmitted from said first facsimile unit, and transmitting the second information which designates a change of a set value of said image forming apparatus, by using a second facsimile unit connected to said communication line;

expanding the coded compressed first information received by said second facsimile unit; and

displaying the expanded first information on a screen or printing out the expanded first information,

on the service provider side.

22. A system according to claim 16, further comprising the steps of:

transmitting the coded first information to a communication line, and receiving second information transmitted from said communication line, by using a first server connected to said communication line; and

changing a set value of said image forming apparatus on the basis of the received second information,

on the user side; and

receiving the coded first information transmitted from said first server, and transmitting the second information which designates a change of a set value of said image forming apparatus, by using a second server connected to said communication line;

expanding the coded compressed first information received by said second server; and

displaying the expanded first information on a screen or printing out the expanded first information,

on the service provider side.

23. A computer-readable storage medium storing information for use in maintenance of an image forming apparatus.

24. A medium according to claim 23, wherein the information contains information concerning an operation log of said image forming apparatus, information concerning the setting of said image forming apparatus, and information concerning a paper jamming occurrence portion.

25. A medium according to claim 23, wherein the information is stored as compressed coded information.